Tacoma Police Department

Current State of Data Systems

March 14, 2018

Data Systems

The team learned that both the *scope and concept of data systems is broad*. In the context of the department's strategic priority, **data systems are everything that supports data driven decision making**. It can entail a hardware used to input the data, house the data repository, or a device to deliver the data to an end user; it could be software that captures the input and provides an interface to access the data; a process that adds value to the data to create information, where at its most basic level, an individual could be considered a data system using inputs and producing outputs, which in turn become another's inputs to produce outputs.

The broad nature of data systems necessitated an examination at the macro-level of the current state. Our framework consists of three components – **Coherent IT Infrastructure, Data Quality, and Data Exploitation**. Improvements to all three areas need to be supported, beginning with a coherent IT infrastructure and should grow simultaneously as steps are taken towards being a world class data driven organization. *Given the complexities, addressing root issues for sustainability need to take priority over smaller symptomatic issues for long-term effectiveness.* This framework can be used for future "deep dives" into data systems at the micro-level.

The Importance of the 2006 Strategic Plan

The department developed a **strategic priority to use data, information, and technology** which outlined the mission, roles, critical competencies, and resources necessary through the first five goals in the 2006 Strategic Plan. Each goal established foundational pieces to reach the priority of being a data driven organization. Many of the expected measures and outcomes were accomplished to varying degrees. **The foundational pieces put in place over the last ten years are a critical strength.** The previous strategic plan created an unbiased baseline that allowed the team to evaluate and identify areas currently requiring further development and refinement as the department continues to evolve.

Leveraging Information

The overarching purpose of using data is to support decision making, which makes the department more effective in achieving our mission. **Good data is needed for good decisions.** *The infrastructure and systems to capture and deliver information are paramount.* Examples of ways data and information can be used to support the department:

- solve crime—connecting the dots
- develop effective strategies and tactics to prevent future crimes
- find and apprehend offenders
- improve safety and quality of life
- educate the public
- optimize internal operations
- prioritize patrol and investigations
- detect and solve community problems
- plan for future resource needs
- enact effective department policies
- provide transparency to public

High Caliber

Policing activities and management philosophies drive the potential effects of data systems on policing[2]. How information is used for reactive response to incidents is significantly different from proactive and community-policing activities. **Advanced activities, analysis, and expectations** – like those associated with being a data-driven organization, **create a greater demand on IT infrastructure and support staff** than purely supporting basic functions (i.e. supporting printers).

Synopsis of Recommendations

Additional personnel in IT to maintain the network and build towards a more seamless, stable, and coherent infrastructure. Creating data quality management plan (aka data governance) with SS911 to promote proactive data quality and error prevention. Prioritize fixing current errors and data quality issues. Documentation of business processes to ensure data definition and valid conclusions can be drawn from the data. Internal training component outlining the importance of data quality during entry, training onthe systems, and how to leverage and exploit data in decision making for officers at every level of the department. **Some recommendations are outside of the direct control of TPD, requiring collaboration and influence with external partners.** The depth of the recommendations is ultimately driven by the desired level of data-driven activities by the department.

Data Driven Law Enforcement Organization

Data as an Asset

Exploiting Data

Data Quality

Coherent IT Infrastructure
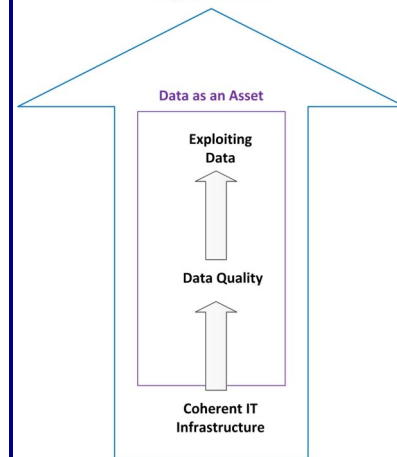
[1.] **Data Systems Framework**

"The leading cause of IT project failures is poor data quality."

-Jonathan Geiger (2004)

Definitions

Coherent IT Infrastructure: *logical, consistent connections of devices, software, data sources across networks.*

Data Quality: *"Garbage in, garbage out" - complete, accurate information captured and stored.*

Data Exploitation: *using data as information; any form of analysis from simple searches to advanced statistics for strategic, tactical, investigative, administrative, or operational purposes.*

Prepared by TPD CAU

[1.]   Framework adapted from *Thomas, R. (2008). Data Driven: Profiting from your businesses most important asset.*

[2.]   Jackson, B. A., Greenfield, V. A., Morral, A. R., & Hollywood, J. S. (2014). *Police Department Investments in Information Technology Systems: Challenges Assessing Their Payoff*. RAND Corporation.